No. 696,866. Patented Apr. 1, 1902.

O. FRYK & L. E. JOHNSON.

TRACK JACK.

(Application filed Aug. 2, 1901.

(No Model.)

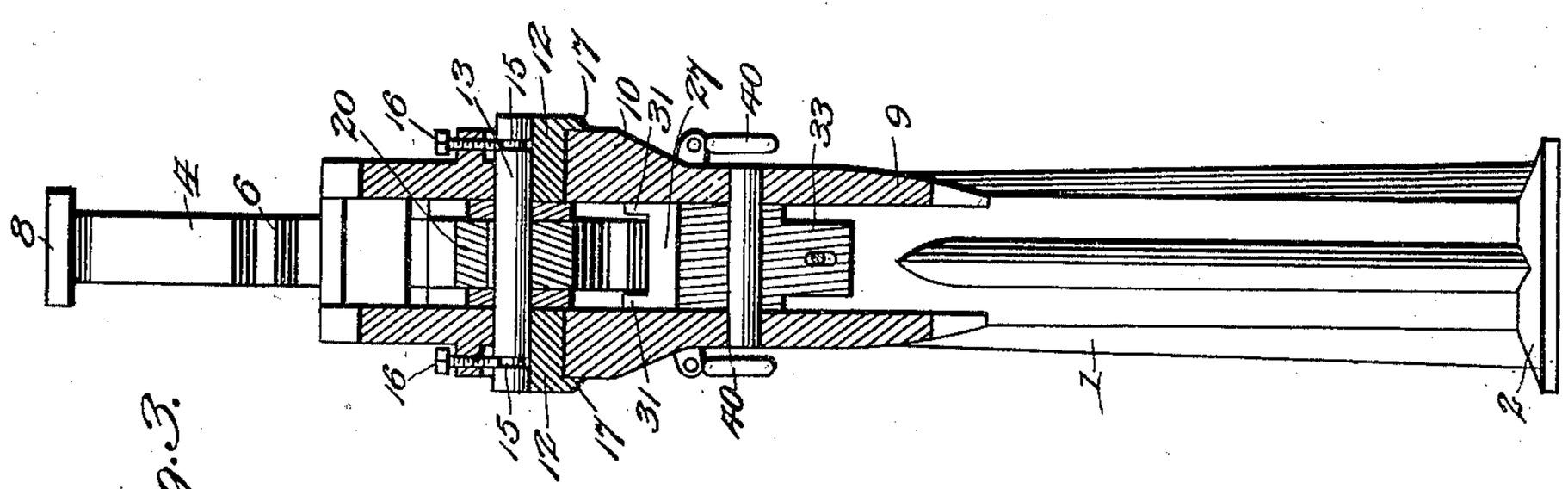

Fig. 3.

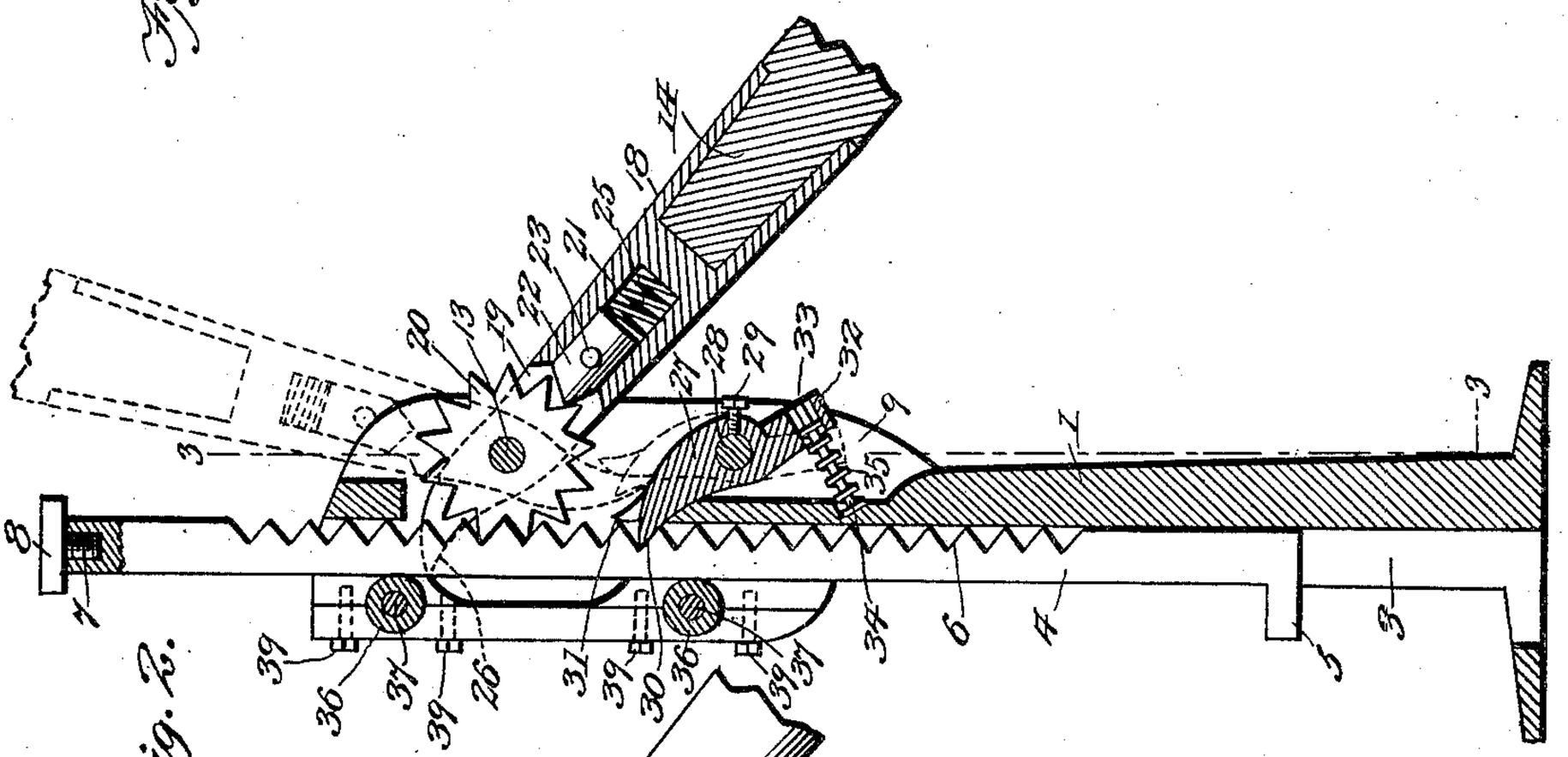

Fig. 2.

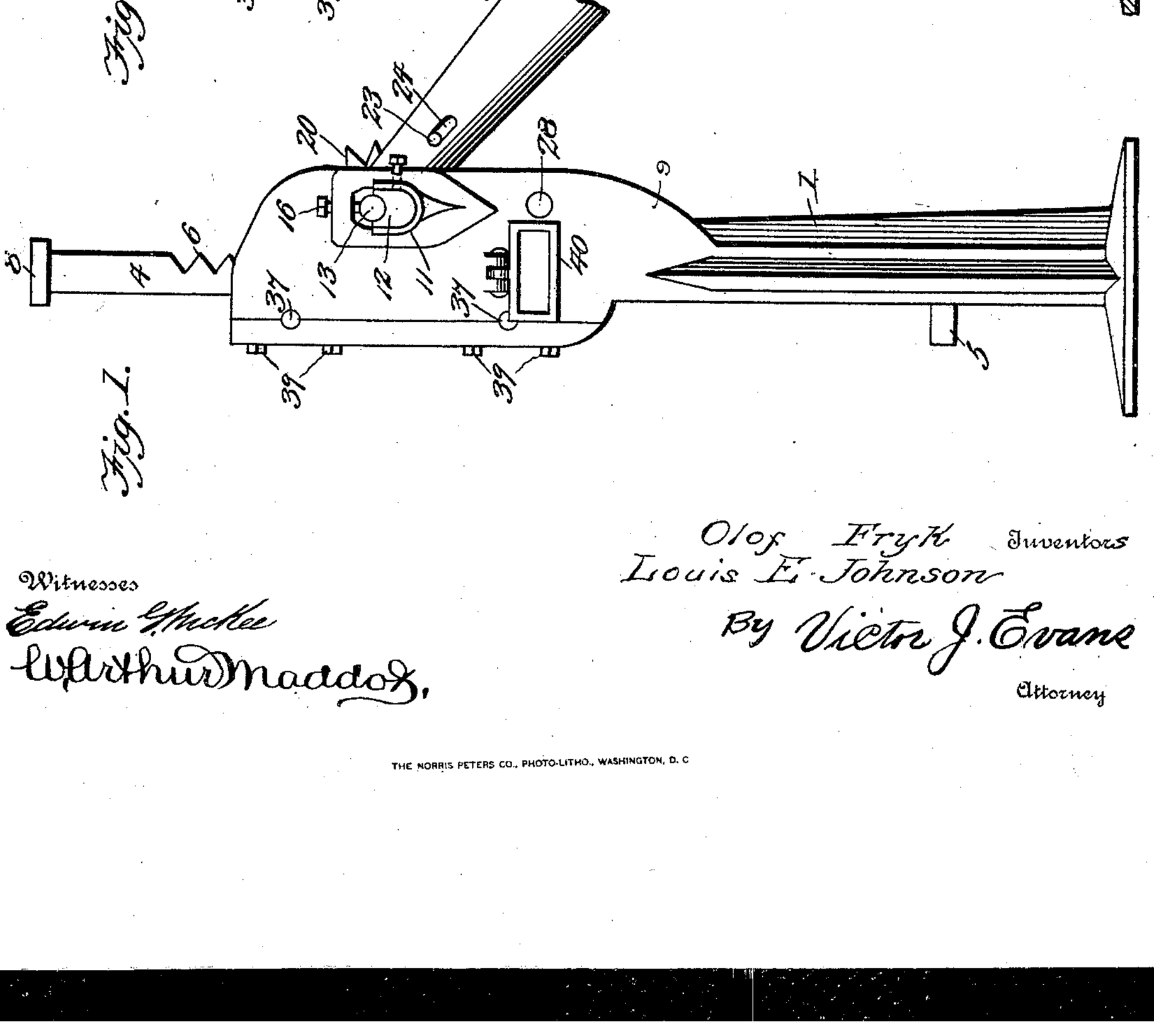

Fig. 1.

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UNITED STATES PATENT OFFICE.

OLOF FRYK, OF RUGBY, AND LOUIS E. JOHNSON, OF RICHBURG, NORTH DAKOTA.

TRACK-JACK.

SPECIFICATION forming part of Letters Patent No. 696,866, dated April 1, 1902.

Application filed August 2, 1901. Serial No. 70,699. (No model.)

To all whom it may concern:

Be it known that we, OLOF FRYK, residing at Rugby, in the county of Pierce, and LOUIS E. JOHNSON, residing at Richburg, in the county of Bottineau, State of North Dakota, citizens of the United States, have invented new and useful Improvements in Track-Jacks, of which the following is a specification.

This invention relates to track-jacks, the object in view being to provide a lifting-jack especially designed with reference to elevating railway-rails and constructed in such manner as to operate with a minimum amount of friction and also having provision whereby the lifting-bar may be tripped at any desired time for lowering the same and releasing the jack from its engagement with the rail.

It is also an object of the invention to so construct the jack that the several parts thereof may be readily disassociated for repairing and cleaning.

The jack is also provided with suitable carrying-handles, by means of which it may be moved from place to place.

With the above and other objects in view the invention consists in the novel construction, combination, and arrangement of parts, as hereinafter fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a side elevation of a track-jack constructed in accordance with the present invention, showing the lifting-bar partially lifted. Fig. 2 is a vertical section through the same, showing by dotted lines the manner of tripping the retaining-dog. Fig. 3 is also a vertical section through the same, taken at right angles to Fig. 2.

Like numerals of reference denote like parts in the different figures of the drawings.

The track-jack contemplated in this invention comprises, essentially, a stand or pedestal 1, provided with a supporting-base 2 and formed in one side with a groove or channel 3, in which is slidingly mounted a lifting-bar 4, movable vertically and provided at its lower end with a laterally-projecting foot 5, adapted to engage under the rail to be lifted. The lifting-bar is provided along its inner edge or side with ratchet-teeth 6, and at its upper end said bar is provided with a threaded socket to receive the threaded shank 7 of a cap 8, forming a rest or support for car-bodies and the like, which may also be raised and lowered by means of the jack forming the subject-matter of this invention.

At the upper portion of the stand or pedestal the latter is provided with oppositely-located plates 9, forming a frame or housing, in which some of the operative parts of the jack are mounted and by means of which such operative parts are protected. The frame-plates 9 are provided with oppositely-projecting lugs 10, formed with cups 11 for the reception of a pair of boxes 12, in which are received the opposite ends of a shaft 13, upon which the operating-lever 14 is mounted and fulcrumed. Said shaft is provided adjacent to its opposite ends with annular grooves 15, into which project the inner ends of retaining-screws 16, which pass through openings in the side lugs on the frame-plates, as shown in Figs. 1 and 3, and serve to retain the shaft in place, while permitting the shaft, together with the operating-lever, to be removed when necessary for repair. The boxes 12 are inserted from the outside and are provided with pendent lips or flanges 17 for the purpose of properly positioning said boxes, said flanges bearing against the lugs 10, as shown in Fig. 3.

The lever 14 has fastened on its inner end a sleeve or ferrule 18, the extremity of which is forked or bifurcated, as shown at 19, the fork being crossed by the shaft 13 and forming a space for a toothed wheel 20, the teeth of which engage the teeth 6 of the lifting-bar, as shown in Fig. 2. The sleeve 18 is also provided with a recess 21, in which is slidingly mounted a spring-pressed dog 22, the outer extremity of which is pointed to engage with the teeth of the wheel 20. The dog 22 has oppositely-projecting studs 23, which work back and forth in slots 24 in the sleeve 21, so as to hold the dog in place and prevent its escape, while admitting of the sliding movement thereof, and said dog is normally urged outward into engagement with the wheel 20 by means of a coil-spring 25, arranged in the recess 21 behind the dog 22. The extremity of the sleeve or ferrule 18 is pointed to form

one or more lips 26 for the purpose of tripping the holding-dog 27.

The holding-dog 27 is pivotally mounted on a pin or shaft 28, the ends of which are inserted in openings in the frame-plates 9, said dog being held on the shaft by means of a set-screw 29. The dog 27 is provided with an engaging point 30, which coöperates with the teeth 6 of the lifting-bar for preventing the descent of the latter during the elevation thereof by means of the operating-lever, and the same extremity of the dog is provided with an additional lip or point 31, which is extended in the opposite direction from the lip 30, as shown in Fig. 2, so as to be engaged by the point 26 of the operating-lever when the latter is thrown upward, as indicated by the dotted-line position in Fig. 2, thereby tripping the retaining-dog and throwing the point or lip 30 out of engagement with the teeth of the lifting-bar. The dog 27 is further provided with a heel extension 32, having an opening 33 therein for the reception of a bolt or pin 34 and a coil-spring 35, which surrounds said bolt or pin. The pin 34 is preferably secured fixedly at one end to the stand or pedestal 1, while the other end is adapted to play through the opening 33 and to form a guide and support for the spring 35, which operates against a shoulder in the opening 33 in the heel end of the dog to normally hold the point 30 thereof in engagement with the teeth of the lifting-bar.

The outer or smooth side of the lifting-bar 4 operates in contact with a pair of antifriction-rollers 36, mounted on shafts or spindles 37, which are received in bearings in the adjacent portions of the frame-plates 9 and held in place by means of bolts, screws, or other fasteners 39. Carrying-handles 40 are pivotally connected to the sides of the frame, as shown in Figs. 1 and 3, to assist the operator in moving the jack from place to place and for loading the same upon a car or other vehicle.

The lifting-jack hereinabove described is simple and economical in construction and will be practical and reliable in use. The jack may be used either as a track-jack or as an ordinary lifting-jack and may be manipulated by a single operator. The lifting-bar may be lowered whenever desired and at any stage in the operation by lifting the operating-lever to a considerable extent, as illustrated by the dotted-line position in Fig. 2, thereby causing the pointed end of the lever to trip the retaining-dog, which leaves the lifting-bar free to descend. The location of the antifriction-rollers on the opposite side of the lifting-bar from the point of application of the power greatly relieves the friction, and by arranging said rollers above and beneath the horizontal plane of the point of application of power the strain and friction on the lifting-bar are equalized and distributed.

Having thus fully described our invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. A track-jack comprising a stand, a toothed lifting-bar slidingly mounted thereon, a horizontal shaft having its ends grooved and mounted in the frame of the stand, retaining-screws passing through openings in the stand and entering said grooves, a toothed wheel mounted on said shaft and coöperating with the lifting-bar, an operating-lever fulcrumed on the same shaft, formed with a recess and slots, a spring located in the recess, and a dog located in the recess, having studs working in the slots, and coöperating with the teeth of said wheel.

2. A track-jack comprising a stand, a toothed and sliding lifting-bar, an operating-lever fulcrumed on a horizontal shaft connected with the frame of the stand, a toothed wheel mounted on the same shaft, and engaging the lifting-bar, a dog on the lever engaging said toothed wheel, and a spring-controlled retaining-dog pivotally mounted on the stand and comprising a pair of engaging lips or points, one of which coöperates with the lifting-bar and the other of which is adapted to be engaged by the operating-lever for tripping the dog.

In testimony whereof we affix our signatures in presence of two witnesses.

OLOF FRYK.
LOUIS E. JOHNSON.

Witnesses:
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